CLAIMS

We claim:

1. A method for electrocoating of electroconductive parts serving as an electrode, comprising passing electrical current between the electrode and a counterelectrode, both of which are in contact with a curable, aqueous electrodepositable paint so as to cause the paint to deposit in a substantially continuous manner on the parts, and subsequently curing the deposited paint, wherein the parts are supported in an electrically conductive container mounted within a conveying unit for movement through a coating section containing the electrodepositable paint and subsequently through a curing section, said container being moveable within the conveying unit to cause the parts to move and separate relative to each other within the container, comprising: moving the containers through the paint coating section and then through the curing section, and causing said containers to move relative to the conveying unit within each of said sections to separate the parts during deposition and curing of the deposited paint.

2. The method of claim 1 wherein movement of said containers within the heat curing section includes rotating the container to create a tumbling of the parts within the container.

3. The method of claim 1 or 2 wherein the container is an apertured barrel.

4. The method of claim 1 or 2 wherein the electrodepositable paint is cationically charged.

5. The method of claim 4 wherein the electrodepositable paint is derived from an epoxy resin.

6. The method of claim 3 wherein said container is rotatably mounted within said conveying unit and the curing section includes a rotating support including a rack and pinion assembly connected between the barrel and the conveying unit within the curing section, and including the step of rotating the barrel during positioning within the curing section.

7. The method of claim 1 wherein the parts are metal fasteners.

8. The method of claim 7 wherein the metal fasteners are screws, bolts and/or nuts.

9. The method of claim 1 including the step of periodically processing said container to remove any paint coating affixed to the container.

10. The method of claim 1 wherein said curing section includes an oven.

11. The method of claim 1 wherein said curing section includes UV lamps.

12. The method of claim 1 in which the electrodepositable paint comprises an acidified aqueous dispersion of the following components:

(a) an ungelled cationic resin;

(b) a curing agent having at least two functional groups which are reactive with (a); and,

(c) a pigment.

13. The method of claim 12 wherein the cationic resin (a) contains active hydrogen groups.

14. The method of claim 12 wherein the curing agent (b) is a polyisocyanate.

15. The method of claim 12 wherein the cationic resin is formed from a cationic group-containing polymer or polymer having functional groups which can be post-reacted to form cationic groups and which have a weight average molecular weight of 500 to 50,000.

16. The method of claim 15 wherein the cationic group-containing polymer or polymer having functional groups which can be post-reacted to form cationic groups contains 0.4 milliequivalents/gram to 5.0 milliequivalents/gram of base.

17. The method of claim 12 wherein the solids content of component (c) in the composition is from 5 weight percent to 50 weight percent based on total solids content of the component.

18. A part coated by the method of claim 1.

19. A part coated by the method of claim 12.